disposing an electrolyte between the microelectronic substrate and both the first and second electrodes, with both the first and second electrodes in fluid communication with the electrolyte;

removing at least part of the conductive material from the microelectronic substrate by passing a varying current through at least one of the first and second electrodes while the first and second electrodes are spaced apart from the conductive material of the microelectronic substrate; and

removing gas from a region between the microelectronic substrate and at least one of the first and second electrodes while the conductive material is removed from the microelectronic substrate.

2. The method of claim 1, further comprising:

interposing a polishing pad having a polishing surface between the face surface of the microelectronic substrate and both the first and second electrodes; and

electrically coupling the electrodes to the face surface of the microelectronic substrate through the polishing pad, with one of the electrodes defining an anode and the other electrode defining a cathode.

3. The method of claim 1 wherein removing the conductive material includes oxidizing the conductive material by passing the varying current through at least one of the first and second electrodes and the conductive material, and engaging the microelectronic substrate with a polishing surface of a polishing pad while passing the varying current through at least one of the first and second electrodes.

4. The method of claim 1, further comprising:

interposing a polishing surface between the face surface of the microelectronic substrate and both the first and second electrodes; and

moving the electrodes and/or the microelectronic substrate to electrically couple the electrodes with a substantial portion of the face surface through the polishing surface, with one of the electrodes defining an anode and the other electrode defining a cathode.

5. The method of claim 1, further comprising:

interposing a polishing surface between the face surface of the microelectronic substrate and both the first and second electrodes; and

coupling the first and second electrodes to a substantial portion of the face surface through the polishing surface.

6. The method of claim 1, further comprising providing for fluid communication between the first and second electrodes proximate to the microelectronic substrate, with one of the electrodes defining an anode and the other electrode defining a cathode.

7. The method of claim 1 wherein positioning the first and second electrodes proximate to the microelectronic substrate includes positioning surfaces of the electrodes to face downwardly toward the microelectronic substrate with the first and second electrodes being spaced apart from each other to define a gas removal channel therebetween, and wherein removing the gas includes removing the gas through the gas removal channel.

8. The method of claim 1 wherein positioning the first and second electrodes proximate to the microelectronic substrate includes positioning surfaces of the electrodes to face upwardly toward the microelectronic substrate.

9. The method of claim 1 wherein positioning the first and second electrodes proximate to the microelectronic substrate includes positioning surfaces of the electrodes to face upwardly toward the microelectronic substrate, and wherein the method further comprises engaging the microelectronic substrate with a polishing surface of a polishing pad adjacent to at least one of the first and second electrodes, and further wherein removing gas includes conducting the gas through an upwardly facing channel in the polishing pad.

10. The method of claim 1 wherein removing the gas includes applying a vacuum to the region between the microelectronic substrate and at least one of the first and second electrodes.

11. The method of claim 1 wherein removing the gas includes introducing ultrasonic energy into a fluid positioned between the microelectronic substrate and at least one of the first and second electrodes.

12. The method of claim 1 wherein removing the gas includes directing a fluid into the region between the microelectronic substrate and at least one of the first and second electrodes and entraining the gas in the fluid.

13. The method of claim 1, further comprising generating the gas by passing the current through the conductive material.

14. The method of claim 1 wherein passing a varying current through the first and second electrodes includes passing an alternating current through the first and second electrodes.

15. The method of claim 1 wherein passing a varying current through the first and second electrodes includes passing a plurality of direct current pulses through the first and second electrodes.

16. The method of claim 1 wherein removing the gas from a region includes removing the gas from a region between a downwardly facing surface of the microelectronic substrate and an upwardly facing surface of at least one of the electrodes.

17. The method of claim 1 wherein removing the gas from a region includes removing the gas from a region between an upwardly facing surface of the microelectronic substrate and a downwardly facing surface of at least one of the electrodes.

18. The method of claim 1, further comprising rotating at least one of the microelectronic substrate and/or at least one of the electrodes at a rate sufficient to direct the gas radially outwardly and away from the microelectronic substrate.

19. The method of claim 1, further comprising removing the gas through a gas removal channel from a region proximate to the microelectronic substrate.

20. The method of claim 1, further comprising conducting the gas along a gas removal surface from a region proximate to the microelectronic substrate.

21. The method of claim 1 wherein the first and second electrodes each have a surface facing downwardly toward the microelectronic substrate during operation, and wherein removing the gas includes removing the gas through a gas removal channel recessed into at least one of the downwardly facing surfaces.

22. The method of claim 1 wherein the first and second electrodes each have a surface facing downwardly toward the microelectronic substrate, and wherein removing the gas includes positioning at least one of the downwardly facing surfaces at a non-horizontal orientation to conduct the gas upwardly and away from the region proximate to the microelectronic substrate.

23. The method of claim 1 wherein removing the gas includes conducting the gas through pores in a polishing pad adjacent to the microelectronic substrate.

24. The method of claim 1 wherein removing at least part of the conductive material includes removing a first portion of the conductive material, and wherein the method further comprises:

aligning a first portion of the microelectronic substrate with a first portion of a polishing pad proximate to at least one of the electrodes and having first electrical characteristics;

aligning a second portion of the microelectronic substrate with a second portion of the polishing pad having second electrical characteristics different than the first electrical characteristics;

engaging the microelectronic substrate with the polishing pad; and

moving at least one of the microelectronic substrate and the polishing pad relative to the other to remove a second portion of the conductive material.

25. (Amended) A method for removing electrically conductive material from a face surface of a microelectronic substrate, comprising:

engaging the microelectronic substrate with a polishing surface of a polishing pad;

coupling the conductive material to a source of electrical potential;

removing at least a portion of the conductive material from the microelectronic substrate by passing a varying current through the conductive material while moving at least one of the microelectronic substrate and the polishing pad relative to the other and while the microelectronic substrate is engaged with the polishing pad; and

removing gas from a region between the face surface of the microelectronic substrate and an electrode facing toward the face surface of the microelectronic substrate while the conductive material is removed from the microelectronic substrate.

26. (Amended) The method of claim 25 wherein the electrode is one of a first electrode and a second electrode, and wherein the method further comprises:

disposing an electrolytic fluid adjacent to the face surface of the microelectronic substrate;

interposing the polishing surface between the face surface and the first and second electrodes;

coupling at least one of the first and second electrodes to the source of electrical potential; and

electrically coupling the first and second electrodes to the face surface of the microelectronic substrate through the polishing surface of the polishing pad via the electrolytic fluid.

27. The method of claim 25, further comprising biasing the polishing surface against the microelectronic substrate with an electrolytic fluid.

28. The method of claim 25, further comprising directing a first portion of an electrolytic fluid through the polishing surface to an interface between the polishing surface and the microelectronic substrate, and removing the gas by entraining the gas with a second portion of the electrolytic fluid.

29. (Amended) The method of claim 25 wherein the electrode is one of a first electrode and a second electrode and wherein the method further comprises positioning both first and second electrodes to face toward the face surface of the microelectronic substrate and coupling at least one of the electrodes to the source of electrical potential.

30. The method of claim 29 wherein engaging the microelectronic substrate with a polishing pad includes engaging a first portion of the microelectronic substrate with a first portion of the polishing pad depending from a first conductive electrode and engaging a second portion of the microelectronic substrate with a second portion of the polishing pad depending from a second conductive electrode.

31. The method of claim 25, further comprising aligning a first portion of the microelectronic substrate with a first portion of the polishing pad having first electrical characteristics and aligning a second portion of the microelectronic substrate with a second portion of the polishing pad having second electrical characteristics different than the first electrical characteristics.

32. The method of claim 25, further comprising engaging the microelectronic substrate with abrasive elements disposed in an electrolytic fluid adjacent to the face surface of the microelectronic substrate.

33. The method of claim 25, further comprising engaging the microelectronic substrate with abrasive elements fixedly attached to the polishing pad.

34. The method of claim 25, further comprising rotating at least one of the microelectronic substrate and the polishing pad relative to the other while the microelectronic substrate is engaged with the polishing pad.

35. The method of claim 25 wherein the polishing pad is elongated along an axis and wherein the method further comprises advancing the polishing pad along the axis.

36-107. (Cancelled)

108. (New) A method for removing electrically conductive material from a face surface of a microelectronic substrate, comprising:

engaging the microelectronic substrate with a polishing surface of a polishing pad;

applying a pressure with an electrolytic fluid to force at least one of the polishing surface and the microelectronic substrate against the other;

coupling the conductive material to a source of electrical potential;

removing at least a portion of the conductive material from the microelectronic substrate by passing a varying current through the conductive material while moving at least one of the microelectronic substrate and the polishing pad relative to the other and while the microelectronic substrate is engaged with the polishing pad;

removing gas from a region adjacent to the microelectronic substrate and/or an electrode at least proximate to the microelectronic substrate while the conductive material is removed from the microelectronic substrate.

109. (New) A method for removing electrically conductive material from a face surface of a microelectronic substrate, comprising:

engaging the microelectronic substrate with a polishing surface of a polishing pad;

positioning first and second electrodes to face toward the face surface of the microelectronic substrate and coupling at least one of the electrodes to a source of electrical potential;

coupling the conductive material to the source of electrical potential;

removing at least a portion of the conductive material from the microelectronic substrate by passing a varying current through the conductive material while moving at least one of the microelectronic substrate and the polishing pad relative to the other and while the microelectronic substrate is engaged with the polishing pad; and

removing gas from a region adjacent to the microelectronic substrate and/or at least one of the electrodes, with the at least one electrode at least proximate to the microelectronic substrate while the conductive material is removed from the microelectronic substrate.

110. (New) The method of claim 109 wherein engaging the microelectronic substrate with a polishing pad includes engaging a first portion of the microelectronic substrate with a first portion of the polishing pad depending from a first conductive electrode and engaging a second portion of the microelectronic substrate with a second portion of the polishing pad depending from a second conductive electrode.

111. (New) A method for removing electrically conductive material from a face surface of a microelectronic substrate, comprising:

engaging the microelectronic substrate with a polishing surface of a polishing pad;

aligning a first portion of the microelectronic substrate with a first portion of the polishing pad having first electrical characteristics and aligning a second portion of the microelectronic substrate with a second portion of the polishing pad having second electrical characteristics different than the first electrical characteristics;

coupling the conductive material to a source of electrical potential;

removing at least a portion of the conductive material from the microelectronic substrate by passing a varying current through the conductive material

while moving at least one of the microelectronic substrate and the polishing pad relative to the other and while the microelectronic substrate is engaged with the polishing pad;

removing gas from a region adjacent to the microelectronic substrate and/or an electrode at least proximate to the microelectronic substrate while the conductive material is removed from the microelectronic substrate.